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(54) Title: STABILIZED BIOACTIVE PEPTIDES AND METHODS OF IDENTIFICATION, SYNTHESIS AND USE

## (57) Abstract

An intracellular selection system allows concurrent screening for peptide bioactivity and stability. Randomized recombinant peptides are screened for bioactivity in a tightly regulated expression system, preferably derived from the wild-type *lac* operon. Bioactive peptides thus identified are inherently protease- and peptidase-resistant. Also provided are bioactive peptides stabilized by a stabilizing group at either the N-terminus, the C-terminus, or both. The stabilizing group can take the form of a small stable protein, such as the Rop protein, glutathione sulfotransferase, thioredoxin, maltose binding protein, or glutathione reductase, or one or more proline residues.

